

MEMORANDUM

9 FEBRUARY, 1987

FROM: CWO R. S. JACOBS

TO: CHIEF, ENGINEERING DIVISION *mz/17*

VIA: ASSISTANT CHIEF, ENGINEERING *D*

SUBJ: TRIP REPORT COGARD LORSTA KARGABURUN 25-30 JAN 1987

1. I ARRIVED AT LORSTA KARGABURUN ON SUNDAY 25 JANUARY AND DEPARTED ON FRIDAY 30 JANUARY. MY VISIT WAS FOR THE PURPOSE OF CONDUCTING THE MECHANICAL SECTION OF ACTEUR'S CIVIL ENGINEERING INSPECTION. I ALSO SHOWED THREE MOVIES ON DEFENSIVE DRIVER TRAINING AND HELD A BRIEF LECTURE AFTERWARDS. I TOOK THE OPPORTUNITY TO PROBE INTO THE CAUSE OF SOME OF THE RECENT MECHANICAL PROBLEMS THE STATION HAS HAD. LASTLY, I LOOKED FOR ANY GROSS VIOLATIONS OF SAFETY STANDARDS.

2. I WAS UNAWARE THAT ANY STATION PERSONNEL NEEDED GOVERNMENT DRIVERS LICENSES, BUT THERE WERE TWO. AS REQUESTED BY THE C.O., I WENT FOR A TEST DRIVE WITH THE TWO MEN. THEY WERE MR. MEHMET ABACI (CIVILIAN GARDENER) AND SN ROBERT REYES (USCG). BOTH MEN HANDLED THE VEHICLE VERY PROFESSIONALLY AND CERTAINLY GOT MY VOTE OF CONFIDENCE. I HAVE SINCE PREPARED THEIR DRIVERS PERMIT AND THEY'RE IN THE POST.

3. THE RESULTS FROM THE CE INSPECTION AND A PUNCH LIST FOR ACTION ITEMS IS INCLUDED IN THIS REPORT.

4. NORMALLY I WOULD HAVE ASKED TO SEE A MAIN BEARING FROM NO. 1 AND NO. 3 GENSETS BECAUSE OF THEIR RECENT OVERHAUL. I DIDN'T ASK FOR THAT THIS TIME BECAUSE THE CREW WAS STILL VERY BUSY PREPARING FOR THE COMMAND INSPECTION, PLUS THE OIL FILTERS LOOKED FREE OF ANY METAL PARTICLES. I REMINDED MKC BYRD OF THE HISTORY AROUND NO. 4 MAIN BEARINGS IN THESE D397 ENGINES AND ADVISED HIM TO BRIEF HIS RELIEF VERY WELL. I RECOMMEND LOOKING AT THE BEARINGS AGAIN AT THE 4000 HR. POINT, IF NOT BEFORE.

5. I EXAMINED THE PRECOMBUSTION CHAMBER THAT ROCKETED OUT OF NO. 3 ENGINE IN EARLY JANUARY. IT'S APPARANT WE STILL HAVE TO DO SOME TRAINING SUPPLY WISE, SO THAT WE ORDER ONLY GENUINE CATERPILLAR PARTS FROM THE NATIONAL SUPPLY SYSTEM. IF IT'S NOT GENUINE CATERPILLAR, WE SHOULDN'T BUY IT. LUCK CONTINUE'S TO RIDE WITH US, THAT NO ONE HAS BEEN HURT FROM THESE OCCURRANCES.

THE REASON THIS CASUALTY OCCURRED BACK IN JANUARY WAS BECAUSE THE CREW DIDN'T HAVE MUCH CONFIDENCE IN THE INITIAL REBUILD OF NO. 3 MAIN ENGINE. WHEN THE ENGINE WAS OOC BECAUSE OF THE CRANKSHAFT, THE ENGINEERS DECIDED TO REPLACE THE PRECOMBUSTION CHAMBERS IN ALL THE HEADS. THEY FAILED TO LOOK FOR THE CATERPILLAR PART NUMBER WHEN THEY INSTALLED THIS PARTICULAR PART. THIS PART IS WELL DOCUMENTED TO BE INFERIOR.



AS IN THIS CASE, IT FAILED 157 HRS LATER. THE OTHERS WERE INSPECTED AFTER THE FACT AND FOUND TO BE CATERPILLAR PARTS.

ANOTHER CASUALTY IN JANUARY, THIS TIME ON NO. 2 MAIN ENGINE, WAS AGAIN RELATED TO THE PRECOMBUSTION CHAMBER. ACTUALLY, IT WAS A RESULT OF DOING PMS. THE 2000 HR CHECK OFF SAYS TO PULL THE PRECOMBUSTION CHAMBERS AND INSPECT THE SEAL BETWEEN THE GAS AND WATER SIDES. THE ENGINEERS HAD JUST COMPLETED THAT PMS. NATURALLY, THEY DIDN'T SEE WHAT THEY WOULD TERM A FAULTY SEAL. THEY DECIDED TO REPLACE ALL THE SEALS ANYHOW. UNFORTUNATELY, ONE OF THE NEW SEALS DIDN'T HOLD UP AND THE COMBUSTION GAS, BEING UNDER A COMPRESSION PRESSURE OF ROUGHLY 600 PSI BLEW ALL THE WATER OUT OF THE ENGINE INSTANTANEOUSLY. A FEW SECONDS LATER, THE ENGINE OVERHEATED. MY RECOMMENDATION ON THIS IS NOT TO CHECK THE SEAL BUT CHECK THE TORQUE INSTEAD. IF THE CHAMBER IS ALREADY SEALING, LET IT CONTINUE TO.

6. I EXERCISED THE REBUILT AIR BREAKER RECENTLY INSTALLED IN NO.2 SWITCHGEAR. IT HAD STRONG TENSION, SMOOTH MOTION, AND DIDN'T HANG UP ANYWHERE. A PMS CHECK OF VISUAL INSPECTION, VACCUMING, AND CHECKING FOR LOOSE CONNECTION IN THE SWITCHGEAR HAS BEEN ADDED TO THE EM'S QUARTERLY CHECKOFF.

I TRIED TO EXERCISE THE KNIFE SWITCHES. TO MY AMAZEMENT, I COULD BARELY OPEN OR CLOSE ANY OF THEM. I THOUGHT I WAS GOING TO BREAK MY WRIST, THEN I HAD TO KICK THE KNIFE SWITCH IN TO GET IT COMPLETELY CLOSED. THE KNIFE SWITCHES ARE IN A VERY SAD STATE. IT'S NOT ONLY THE CONTACTS, THE ENTIRE OPERATING MECHANISM IS JAMMING. IN MY OPINION, THESE KNIFE SWITCHES REQUIRE OUR MOST URGENT ATTENTION!

7. I INVESTIGATED THE PROBLEM OF TREMENDOUS POWER FLUCTUATION WHICH LORAN INSPECTORS WITNESSED DURING THEIR INSPECTION. I NEVER SAW THE LARGE CYCLIC POWER DRAW ON THE AMP METERS NOR HEAR THE MOTORS SLOW DOWN. THERE WAS ONLY ONCE THAT I EVEN NOTICED THE LIGHTS FLICKER, AND THAT SEEMED NORMAL TO ME BECAUSE OF THE FLOURESCENT LIGHTS AND I SEE THE SAME THING AT ALL THE STATIONS.

CWO DOLAN AND MKC BYRD SAID THAT WHAT THE LORAN INSPECTORS WITNESSED RESULTED FROM THE SPARE A/C UNIT ON THE AFT WALL IN THE TIMER ROOM. NORMALLY IT DOESN'T RUN BECAUSE IT'S ONLY A SPARE. IN FACT, THE DUCTS ARE COVERED BY A PLYWOOD BOARD WITH LARGE HOLES IN IT. MY FIRST THOUGHT WHEN I SAW THAT WAS-IF THIS MACHINE DOES WORK, IT SHOULDN'T. THE PLYWOOD BOARD IS RESTRICTING THE UNIT FROM OPERATING PROPERLY.

MKC BYRD TOLD ME THAT THE UNIT WILL TRIP OUT ONLY A FEW SECONDS AFTER BEING TURNED ON. HE TURNED IT ON AND NOTHING HAPPENED, EXCEPT THE FAN PUSHED A LOT OF AIR AGAINST THE BOARD. THERE WAS NO POWER FLUCTUATION (IF THE SWITCHGEAR HAD GROUND FAULT INDICATORS, I'M SURE ONE WOULD HAVE SHOWN UP AT THAT MOMENT). HE SEEMED SURPRISED THAT THE UNIT CONTINUED TO RUN. WE WENT AROUND BACK TO THE ACTUAL UNIT. I WANTED TO FEEL HOW HOT THE COMPRESSOR WAS. WHEN I LOOKED INSIDE, I SAW THE REFRIGERANT LINE PIERCED WITH A CHARGING VALVE, AND THE COMPRESSOR WAS NOT RUNNING AT ALL. THAT EXPLAINED WHY NO POWER SURGE- THE COMPRESSOR HAD FINALLY BURNED UP. READING THE LOGS WITH A SIMPSON CONFIRMED THAT.



MY RECOMMENDATION IS TO REPLACE THE UNIT RIGHT AWAY AS IT IS TOO OLD TO SPEND A LOT OF UNNECESSARY MANHOURS ON A RELATIVELY CHEAP PIECE OF EQUIPMENT. I WAS A BIT SURPRISED WHEN THE CREW LOOKED AT IT AS A SPARE AND DIDN'T REQUIRE URGENT REPLACEMENT. WHAT HAPPENS IF THE MAIN UNIT DIES? IT WILL ONE DAY. IF IT DOES NOW, IT WILL GUARANTEE AN EXTENSIVE OFF-AIR. A REPLACEMENT A/C UNIT SHOULD BE ORDERED ASAP, AND WHEN IT COMES IN, ALTERNATE USAGE. PERHAPS THIS BROKEN SPARE CAN BE CONVERTED INTO A GOOD TRAINING AID.

I'VE READ SOMEONES COMMENTS ABOUT ACTEUR RENTING A POWER ANALYZER FOR USE AT ESTARTIT. THE COMMENTS ALSO SAID THAT SELLIA HAD PURCHASED ONE FOR ABOUT \$500, AND WE SHOULD RENT OR BUY ONE FOR EACH STATION. AS YOU NOW, THERE IS NO REASON TO RENT ONE AS WE ALREADY HAVE ONE THAT WORKS ON BOTH 50 AND 60HZ AND VARYING VOLTAGES. ALTHOUGH IT'S OBSOLETE, WE HAVE A GOOD UNIT THAT IS STILL SUPPORTABLE AND RELIABLE. WHEN IT WAS PURCHASED IN '82 IT COST OVER \$2000. TODAY, IT'S REPLACEMENT COSTS BETWEEN 10-15K DOLLARS. IF WE ARE GOING TO RELY ON THESE MACHINES, IT'S GOT TO BE A GOOD ONE, NOT ONE THAT COST \$500. I THINK KARGABURUN CAN WAIT UNTIL OURS RETURNS FROM LIBERIA, ESPECIALLY NOW THAT THEY DON'T HAVE AN INDICATION OF A PROBLEM.

8. I NOTICED THAT THE MAINTENANCE ENGINE REQUIRES MORE CRANKING POWER THAN ONE SET OF BATTERIES, WHEN IT'S COLD AND NOT USING ETHER. THE STATION HAS THE INFORMATION TO ORDER THE NECESSARY HOTSTARTS TO CORRECT THIS PROBLEM. THEY ARE GOING OUT FOR A PRICE QUOTE. I'M TRYING MYSELF TO CALL THE COMPANY AND GET A VERBAL QUOTE SO THEY CAN HURRY AND GET THE PARTS ON ORDER.

THE STATION HAS A SPARE SET OF STARTING BATTERIES ON A PORTABLE CART, BUT THEY HAVE NO WAY OF RE-CHARGING THE BATTERIES UNLESS THEY JUMPER TO ONE OF THE INSTALLED SETS AND USE IT'S CHARGER. THEIR PORTABLE CHARGER DOESN'T HANDLE 8 OR 32 VOLTS. THE UNIT SHOULD EITHER ORDER A 32 VOLT BATTERY CHARGER OR DO AWAY WITH THE SPARE SET ON WHEELS.

9. MY IMPRESSION OF SPARE PARTS WAS VERY FAVORABLE. THEY HAVE A GOOD SPARE PARTS CONTROL SYSTEM AND ALMOST EVERYTHING IS ON COMPUTER. THEY HAVE A GOOD INVENTORY. ONE MAN IS IN CHARGE-MK3 KLIEN. IT'S OBVIOUS HE TAKES A LOT OF PRIDE IN HIS WORK.

10. INCLUDED IN THIS REPORT IS A LIST OF SAFETY DISCREPANCIES. IT WAS MOST PLEASING TO SEE HOW THE CREW HANDLED THESE DISCREPANCIES, AND THOSE FROM THE CE INSPECTION. EACH NIGHT THEY ASKED WHAT I HAD FOUND SO THEY COULD TACKLE THEM RIGHT OFF. BOTH OF MY LIST INCLUDE EVERYTHING I FOUND, EVEN THOUGH A LOT HAVE ALREADY BEEN CORRECTED.


11. SO FAR AS A GRADE IS CONCERNED, I RATED THE STATION AS FOLLOWS:

LEADERSHIP EVALUATION.....EXCELLENT  
ADHERANCE TO CG STANDARDS...EXCELLENT  
ATTITUDES.....OUTSTANDING



OVERALL ADJECTIVAL GRADE.....SLIGHTLY ABOVE EXCELLENT OR  
SLIGHTLY BELOW OUTSTANDING

12. AS USUAL, THIS WAS A GOOD TRIP TO KARGABURUN. IT'S ALWAYS NICE GOING THERE, BUT THIS WAS MY VERY BEST TRIP. THAT IS ENTIRELY DUE TO THE COMMAND AND CREW PRESENTLY ASSIGNED. THEY DESERVE A LOT OF PRAISE.

  
R. S. JACOBS

KARGABURUN CIVIL ENGINEERING INSPECTION 25-30 JAN 87  
ACTION ITEMS

1. MAKE UP AND START USING THE ENGINEER OFFICER'S NIGHT ORDER BOOK.
2. INCLUDE A COPY OF THE DEPARTMENT STANDING ORDERS WITH THE NIGHT ORDER BOOK.
3. COMPLETE THE INSTALLATION OF CATERPILLAR'S PREMIUM GAUGE PANEL. ENSURE ALL GAUGES OPERATE PROPERLY.
4. CHECK WITH THE AIR FORCE TO SEE IF IT'S POSSIBLE FOR THEM TO CALIBRATE YOU SWITCHBOARD METERS.
5. ORDER AND INSTALL AN EXHAUST BACK PRESSURE GAUGE AND A CRANKCASE PRESSURE/VACUUM GAUGE SO THAT ENGINE OPERATING PARAMETERS CAN BE MONITORED AT ALL TIMES. THESE ARE DELICATE GAUGES AND WILL COST MORE THAN YOU EXPECT TO PAY.
6. REPLACE THE GLASS IN THE CYCLE METER FOR NO. 2 M/E
7. RESEARCH INTO THE ABILITY OF HAVING YOUR FRESH WATER COMPRESSION TANK HYDROSTATICALLY TESTED TO 150% RATED CAPACITY. IF FEASIBLE, HAVE IT DONE. REQUIRE A CERTIFICATE.
8. ESTABLISH A FORMAL ENGINEERING TRAINING PROGRAM
9. MAKE UP INDIVIDUAL QUALIFICATION LETTERS SHOWING THAT THE PERSON HAS RECEIVED PROPER TRAINING AND IS QUALIFIED TO OPERATE POWER ACTUATED TOOLS.
10. TEST THE GANTRY TO 150% RATED CAPACITY. STENCIL TEST DATE
11. WHEN INSPECTING FIRE EXTINGUISHERS EACH MONTH, DENOTE THE ACTUAL WT OF THE MEDIUM.
12. CHECK WITH THE AIR FORCE TO SEE IF THEY CAN PERFORM A HYDROSTATIC TEST OF ALL CO2 BOTTLES.
13. SCHEDULE TO HAVE YOU FUEL TANKS CLEANED. DO ONLY DURING SUMMER MONTHS
14. ESTABLISH A LOG SOLELY FOR RECORDING DAILY CHLORINATION REST RESULTS
15. CONTINUE MAINTAINING THE SEPTIC TANK LOG. MAKE ENTRIES WHEN MAINTENANCE IS DONE.
16. PREPARE ENGINEERING STANDING ORDERS FOR:
  - A. ISSUE, USE AND REPLENISHMENT OF SPARE PARTS
  - B. WHEN TO CALL THE EO
  - C. DISPOSAL OF HAZARDOUS WASTE
  - D. CLEANING BILL
17. PREPARE A CASUALTY CONTROL MANUAL.
18. IDENTIFY FIRE EXTINGUISHERS WITH THE APPROPRIATE A,B,C, AND D LETTER SYMBOLS.
19. ESTABLISH A LUBRICATING OIL HISTORY FILE SHOWING ALL THE CENTRIFUGE AND VISCOSITY TEST RESULTS.
20. RUN DRAIN LINE FROM EYEWASH STATION TO BELOW THE DECK IN THE ENGINEROOM.
21. LABEL FIRE MAIN CUTOUT STATIONS
22. REMOVE CONTROLLER, WIRE, CONDUIT, AND METAL FRAMEWORK THAT USED TO SUPPORT THE OLD AIR COMPRESSOR ON THE NORTH SIDE WALL OF ENGINEROOM.
23. REMOVE OR MAKE OPERATIONAL THE STEP UP TRANSFORMER IN THE PUMP HOUSE.



24. PROCURE AND INSTALL NEW MUFFLERS. THE ONE ON NO.1 ENGINE HAS A ONE EIGHTH INCH HOLE IN IT. THAT WILL DETERIORATE VERY RAPIDLY NOW.
25. SEND ACTEUR AN UPDATED COPY OF YOUR MACHINERY INDEX.
26. RENEW THE STEEL BRACKET NEEDED TO HOLD THE LOCK ON THE COVER OF THE FRESH WATER TANKS.

KARGABURUN SAFETY DISCREPANCIES 25-30 JAN 1987

1. ORDER AND INSTALL GROUND FAULT CIRCUIT INTERRUPTERS IN THE TWO GALLEY OUTLETS AND ALL OUTSIDE OUTLETS.
2. START TESTING ELECTRICAL RUBBER GLOVES FOR THEIR DIELECTRIC CAPACITY EVERY SIX MONTHS
3. SUBMIT TO ACTEUR A COPY OF YOUR UNIT PRE-MISHAP PLAN WHEN IT IS COMPLETE.
4. CHECK WITH THE AIR FORCE TO GET AUDIOGRAMS DONE ON ALL PERSONNEL WHO HAVEN'T HAD ONE IN THE LAST YEAR.
5. CONDUCT A TOXIC CHEMICAL INVENTORY AND SEND ACTEUR A COPY OF THE RESULTS.
6. SECURE THE LADDER LEADING TO THE ROOF ON THE BACK SIDE OF THE SP BLDG. USE LAG BOLTS ON THE VERTICAL WALL, DO NOT PENETRATE THE ROOF.
7. SECURE THE DRILL PRESS AND LATHE TO THE DECK TO PREVENT THEIR WALKING OR MOVING.
8. ESTABLISH A MEDICAL MONITORING PROGRAM FOR PERSONNEL ASSIGNED HAZARDOUS WORK ACTIVITIES.
9. PUT A "NO SMOKING" SIGN ON THE BACK SIDE OF THE GASOLINE DISPENSING PUMP.
10. FABRICATE AND INSTALL A GUARD TO COVER THE BLADES ON THE JOINTER/PLANER.
11. RENEW THE BURNED OUT HEATING ELEMENT TO THE FINAL RINSE CYCLE OF THE DISHWASHER.
12. REPLACE THE HOSES, REGULATORS AND GAUGES TO THE OXY/ACY RIG. HOSES HELD ON WITH HOSE CLAMPS IS NOT ACCEPTABLE.
13. REMOVE THE EXTENSION CORD LYING IN THE WATER AND MUD LEADING TO THE GUARD SHACK AT THE MAIN ENTRANCE.
14. PUT A SPARE CIRCUIT BREAKER OR BLANK COVER OVER THE HOLE IN THE CB PANEL IN THE ET OFFICE.
15. PUT A SPARE CIRCUIT BREAKER OR BLANK COVER OVER THE HOLE IN THE CB PANEL IN THE EM WORK AREA.
16. ASK THE JANITOR TO TAKE NOTE OF HIS PERSONAL HYGIENE.
17. CUT OFF THE LEGS AND CENTER POLE OF THE OLD ANTENNA WHICH IS PROTRUDING 8-10 INCHES THROUGH THE ROOF OF THE SP BLDG
18. ON THE NEW EXHAUST BLOWER IN THE "T" BLDG, FABRICATE AND INSTALL AN ADJUSTABLE LOUVER WHICH CLOSES AUTOMATICALLY IN CASE OF FIRE. RIGHT NOW THAT BLOWER RENDERS YOUR CO2 LESS EFFECTIVE. PUT A SCREEN ON THE BACK SIDE OF THE FAN TO KEEP THINGS FROM BEING JAMMED INTO IT.
19. REPLACE THE RUSTED FLOODLIGHT AND FIXTURE ON THE SW CORNER OF THE SP BLDG.